Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

| STATEMENT UNDER 37 CFR 3.73(b) | | |
|--|---|--|
| Assignee/Patent Owner: Chamberlain et al. | | |
| Application No./Patent No.: 10/550,326 | Filed/Issue Date: September 23, 2005 | |
| Entitled: Intelligent Data Storage and Processing Using FF | GA Devices | |
| Washington University , a_c (Name of Assignee) | orporation of the State of Missouri | |
| (reame of Assignee) | (Type of Assignee, e.g., corporation, partnership, university, government agency, etc.) | |
| states that it is: | | |
| 1. ☐ the assignee of the entire right, title, and interest; or | | |
| an assignee of less than the entire right, title and interest. The extent (by, percentage) of its ownership interest is50% | | |
| in the patent application/patent identified above by virtue of e | ither: | |
| A. [X] An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel, Frame, or for which a copy thereof is attached. | | |
| OR | No. | |
| B. [] A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as shown below: | | |
| From To:_ The document was recorded in the United State | | |
| Reel, Frame | es Patent and Trademark Office at , or for which a copy thereof is attached. | |
| 2. FromTo: | | |
| The document was recorded in the United State Reel, Frame | es Patent and Trademark Office at | |
| From To: The document was recorded in the United State | Detent and Trademark Office at | |
| Reel, Frame | _, or for which a copy thereof is attached. | |
| []Additional documents in the chain of title are list | ed on a supplemental sheet. | |
| [] Copies of assignments or other documents in the chain of title are attached. [NOTE: A separate copy (i.e., the original assignment document or a true copy of the original document) must be submitted to Assignment Division in accordance with 37 CFR Part 3, if the assignment is to be recorded in the records of the USPTO. See MPEP 302.08] | | |
| The undersigned (whose title is supplied below) is authorized | | |
| 10-4-06 Date | Brodley I-Castanho | |
| Date | Typed or printed name | |
| | and (ately | |
| | Juterim Divertor, OTM | |

Burden Hour Statement: This form is estimated to take 0.2 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

ASSIGNMENT

WHEREAS, we, Roger D. Chamberlain of 64 Notre Dame Drive, St. Louis, Missouri 63141; Benjamin M. Brink of 17 Washington Terrace, St. Louis, Missouri 63112; Jason R. White of 902 Dogwood Creek Drive, Apt. I, Manchester, Missouri 63021; Mark A. Franklin of 7456 Stratford Avenue, St. Louis, Missouri 63130; and Ronald K. Cytron of 49 Granada Way, St. Louis, Missouri 63124, have invented certain new and useful improvements for *Intelligent Data Storage and Processing Using FPGA Devices* for which we executed an application for Letters Patent in the United States identifying us as the only inventors thereof said application being assigned serial number 10/550,326 by the U.S. Patent and Trademark Office and identified as Thompson Coburn LLP, Docket 53047/57365;

WHEREAS, Washington University, a corporation of the State of Missouri having its principal office and place of business at One Brookings Drive, St. Louis, Missouri 63130, is desirous of acquiring one-half (50%) ownership of the entire right, title and interest in and to said invention and improvements as disclosed in said application, in and to said application, and in and to the patent to be obtained thereon.

WHEREAS, Exegy Incorporated, a corporation of the State of Delaware having its principal office and place of business at 3668 South Geyer Road, Suite 300, St. Louis, Missouri 63127, is desirous of acquiring one-half (50%) ownership of the entire right, title and interest in and to said invention and improvements as disclosed in said application, in and to said application, and in and to the patent to be obtained thereon; and

NOW THEREFORE, in consideration of the sum of One Dollar (\$1.00) to us in hand paid, and other good and valuable consideration, the receipt and adequacy of all of which are hereby acknowledged, we, Roger D. Chamberlain, Benjamin M. Brink, Jason R. White, Mark A. Franklin, and Ronald K. Cytron, have sold, assigned and transferred and do hereby sell, assign and transfer unto said Washington University, its successors or assigns, one-half (50%) ownership of the entire right, title and interest in and to said invention and improvements as the same are disclosed in said application which was executed by us in and to said application, and in and to any Letters Patent, including divisionals, continuations, reissues, reexaminations and extensions to be obtained therefor in the United States and all foreign countries; and we further agree to cooperate with the assignee hereunder in the obtaining and sustaining of any and all such Letters Patent as the assignee may desire to apply for, but at the expense of said assignee.

Furthermore, in consideration of the sum of One Dollar (\$1.00) to us in hand paid, and other good and valuable consideration, the receipt and adequacy of all of which are hereby acknowledged, we, Roger D. Chamberlain, Benjamin M. Brink, Jason R. White, Mark A. Franklin, and Ronald K. Cytron, have sold, assigned and transferred and do hereby sell, assign and transfer unto said Exegy Incorporated, its successors or assigns, the remaining one-half (50%) ownership of the entire right, title and interest in and to said invention and improvements as the same are disclosed in said application which was executed by us in and to said application, and in and to any Letters Patent, including divisionals, continuations, reissues, reexaminations and extensions to be obtained therefor in the United States and all foreign countries; and we further agree to cooperate with the assignee hereunder in the obtaining and sustaining of any and all such Letters Patent as the assignee may desire to apply for, but at the expense of said assignee.

The Commissioner of Patents or other proper official is hereby authorized and requested to issue said Letters Patent to said Washington University and Exegy Incorporated in accordance with this Assignment.

The undersigned hereby authorize and request the attorneys of record in said application(s) to insert in this Assignment the serial number, filing date, and date of execution of said application(s).

For said considerations, the undersigned hereby agree, upon the request and at the expense of said Assignees, to execute any divisional, continuation, continuation-in-part or substitute application for said invention or improvements, and any oath or affidavit relating thereto, and any application for the reissue or extension of any Letters Patent that may be granted upon said application(s), and, in the event of any application or Letters Patent assigned herein becoming involved in an interference, to cooperate to the best of the ability of the undersigned in the matters of preparing and executing the preliminary statement and giving and producing evidence in support thereof. The undersigned agree to perform, upon request, any affirmative acts to obtain said Letters Patent of the United States and vest in said Assignees all rights therein, whereby said Letters Patent will be held and enjoyed by said Assignees, to the full end of the term for which said Letters Patent may be granted as fully and entirely as the same would have been held and enjoyed by the undersigned if this assignment has not been made.

And for said consideration, the undersigned hereby assign to each of said Assignees one-half (50%) ownership of the entire right, title and interest in said invention or improvements for all foreign countries,

including all priority rights, and agree to execute, at the request of said Assignees, all documents in connection with any application for foreign Letters Patent therefor.

| IN WITNESS WHEREOF, I have detaber, 2006. | hereunto set my hand the 26th day of Roger D. Chamberlain |
|--|---|
| STATE OF | : |
| COUNTY OF | : SS |
| On this Of day of Charles, State of ROGER D. CHAMBERLAIN, to me known to be the assignment and acknowledged that he executed sar | ne nerson described in and who executed the formation |
| IN TESTIMONY WHEREOF, I have hereur written. | nto set my hand and seal the date and year last above Notary Public |
| My Commission Expires: August 8,2010 | |
| WITNESS: | WITNESS: |
| By: Math By Cur. Printed Name: Math hey Pullian | By: <u>Maxamust</u> Printed Name: <u>ara Lambert</u> |

| IN WITNESS WHEDEOF I have | harmont and hard the 315th |
|--|--|
| IN WITNESS WHEREOF, I have | hereunto set my hand the $2!\frac{1}{2!}$ day of |
| December, 2006. | 15M2 |
| | Benjamin M. Brink |
| STATE OF | |
| COUNTY OF | SS |
| On this 21 St day of December County of Fain on State BENJAMIN M. BRINK, to me known to be the assignment and acknowledged that he executed sa | 2006 before me, a Notary Public, within and for the of, personally appeared person described in and who executed the foregoing ame as his free act and deed. |
| IN TESTIMONY WHEREOF, I have herewartten. | unto set my hand and seal the date and year last above |
| | Notary Public |
| My Commission Expires: June 30, 2007 | · X |
| WITNESS: | WITNESS: By: De Shaw Mcml |
| | <i>Sy.</i> |
| Printed Name: Beth Ann Talford | Printed Name: As Shaven Mallian |

| IN WITNESS WHEREOF, I have | hereunto set my hand the $\frac{24^{\mu}}{\lambda}$ day of |
|---|--|
| October, 2006. | Jason R. White |
| STATE OF | : |
| COUNTY OF | : SS : |
| On this day of Chock County of Chockes, State of JASON R. WHITE, to me known to be the person of and acknowledged that he executed same as his free | 2006 before me, a Notary Public, within and for the of Missouri, personally appeared escribed in and who executed the foregoing assignment e act and deed. |
| IN TESTIMONY WHEREOF, I have hereur written. | nto set my hand and seal the date and year last above |
| My Commission Expires: Lugust 8, 2010 | Notary Public P. |
| WITNESS: | WITNESS: |
| By: Dir | By: Mast Rollian |
| Printed Name: NAVEEN SINGLA | Printed Name: Matt Pulliam |



| IN WITNESS WHEREOF, I have | hereunto set my hand the $3/$ day of |
|---|---|
| <u>oxober</u> , 2006. | Mach a Franklin |
| STATE OF MISSOURI | |
| COUNTY OF 57. Lonis | : SS : |
| On this 3 St day of October County of State MARK A. FRANKLIN, to me known to be the assignment and acknowledged that he executed sale | 2006 before me, a Notary Public, within and for the of, personally appeared person described in and who executed the foregoing me as his free act and deed. |
| IN TESTIMONY WHEREOF, I have hereu written. | nto set my hand and seal the date and year last above |
| My Commission Expires: 4-4-09 | Shew Buttray Notary Public |
| WITNESS; | WITNESS: |
| By: Cara Samuet | By: Lulanie Bach |
| Printed Name CUra Cambert | Printed Name: Melanie 13 ath |
| | |

SHERI BUTTREY
Notary Public - Notary Seal
State of Missouri - County of St. Charles
My Commission Expires Apr. 4, 2009
Commission #05690836

| IN WITNESS WHEREOF, I have hereunto set m | y hand the 17 th day of November, |
|---|--|
| 2006. | Rikh |
| STATE OF Missour. COUNTY OF St. Louis | Rone K. Cytron : : SS |
| On this 17 ⁺ day of November County of 5+ Louis, State RONALD K. CYTRON, to me known to be the assignment and acknowledged that he executed sale | 2006 before me, a Notary Public, within and for the of |
| iN TESTIMONY WHEREOF, I have hereu written. | nto set my hand and seal the date and year last above |
| My Commission Expires: Sept. 26, 2010 | |
| WITNESS: | WITNESS: |
| Ву: | Ву: |
| Printed Name: | Printed Name: |

LESLEY J TOMLIN

Notary Public-Notary Seal
State of Missouri, St Louis County
Commission # 06943482
My Commission Expires Sep 26, 2010

Attorney Docket No. 53047/57365

Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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| STATEMENT UNDER 37 CFR 3.73(b) | | |
|--|--|--|
| Assignee/Patent Owner: Chamberlain et al. | | |
| Application No./Patent No.: 10/550,326 Filed/Issue Date: September 23, 2005 | | |
| Entitled: Intelligent Data Storage and Processing Using FPGA Devices | | |
| Exegy Incorporated, a <u>corporation of the State of Delaware</u> , (Name of Assignee) (Type of Assignee, e.g., corporation, partnership, university, government agency, etc.) | | |
| states that it is: | | |
| 1. ☐ the assignee of the entire right, title, and interest; or | | |
| Image: an assignee of less than the entire right, title and interest. The extent (by, percentage) of its ownership interest is | | |
| in the patent application/patent identified above by virtue of either: | | |
| A. [X] An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel, Frame, or for which a copy thereof is attached. | | |
| OR | | |
| B. [] A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as shown below: | | |
| From To: To: The document was recorded in the United States Patent and Trademark Office at Reel, Frame, or for which a copy thereof is attached. | | |
| 2. From To: | | |
| The document was recorded in the United States Patent and Trademark Office at Reel, Frame, or for which a copy thereof is attached. | | |
| From To: The document was recorded in the United States Patent and Trademark Office at | | |
| Reel, Frame, or for which a copy thereof is attached. | | |
| [] Additional documents in the chain of title are listed on a supplemental sheet. | | |
| [] Copies of assignments or other documents in the chain of title are attached. [NOTE: A separate copy (i.e., the original assignment document or a true copy of the original document) must be submitted to Assignment Division in accordance with 37 CFR Part 3, if the assignment is to be recorded in the records of the USPTO. See MPEP 302.08] | | |
| The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee. | | |
| 10/24/06 | | |
| Date Typed or printed name | | |
| | | |
| Signature | | |
| Chief Financial Officer Title | | |

Burden Hour Statement: This form is estimated to take 0.2 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

ASSIGNMENT

WHEREAS, we, Roger D. Chamberlain of 64 Notre Dame Drive, St. Louis, Missouri 63141; Benjamin M. Brink of 17 Washington Terrace, St. Louis, Missouri 63112; Jason R. White of 902 Dogwood Creek Drive, Apt. I, Manchester, Missouri 63021; Mark A. Franklin of 7456 Stratford Avenue, St. Louis, Missouri 63130; and Ronald K. Cytron of 49 Granada Way, St. Louis, Missouri 63124, have invented certain new and useful improvements for *Intelligent Data Storage and Processing Using FPGA Devices* for which we executed an application for Letters Patent in the United States identifying us as the only inventors thereof said application being assigned serial number 10/550,326 by the U.S. Patent and Trademark Office and identified as Thompson Coburn LLP, Docket 53047/57365;

WHEREAS, Washington University, a corporation of the State of Missouri having its principal office and place of business at One Brookings Drive, St. Louis, Missouri 63130, is desirous of acquiring one-half (50%) ownership of the entire right, title and interest in and to said invention and improvements as disclosed in said application, in and to said application, and in and to the patent to be obtained thereon.

WHEREAS, Exegy Incorporated, a corporation of the State of Delaware having its principal office and place of business at 3668 South Geyer Road, Suite 300, St. Louis, Missouri 63127, is desirous of acquiring one-half (50%) ownership of the entire right, title and interest in and to said invention and improvements as disclosed in said application, in and to said application, and in and to the patent to be obtained thereon; and

NOW THEREFORE, in consideration of the sum of One Dollar (\$1.00) to us in hand paid, and other good and valuable consideration, the receipt and adequacy of all of which are hereby acknowledged, we, Roger D. Chamberlain, Benjamin M. Brink, Jason R. White, Mark A. Franklin, and Ronald K. Cytron, have sold, assigned and transferred and do hereby sell, assign and transfer unto said Washington University, its successors or assigns, one-half (50%) ownership of the entire right, title and interest in and to said invention and improvements as the same are disclosed in said application which was executed by us in and to said application, and in and to any Letters Patent, including divisionals, continuations, reissues, reexaminations and extensions to be obtained therefor in the United States and all foreign countries; and we further agree to cooperate with the assignee hereunder in the obtaining and sustaining of any and all such Letters Patent as the assignee may desire to apply for, but at the expense of said assignee.

Furthermore, in consideration of the sum of One Dollar (\$1.00) to us in hand paid, and other good and valuable consideration, the receipt and adequacy of all of which are hereby acknowledged, we, Roger D. Chamberlain, Benjamin M. Brink, Jason R. White, Mark A. Franklin, and Ronald K. Cytron, have sold, assigned and transferred and do hereby sell, assign and transfer unto said Exegy Incorporated, its successors or assigns, the remaining one-half (50%) ownership of the entire right, title and interest in and to said invention and improvements as the same are disclosed in said application which was executed by us in and to said application, and in and to any Letters Patent, including divisionals, continuations, reissues, reexaminations and extensions to be obtained therefor in the United States and all foreign countries; and we further agree to cooperate with the assignee hereunder in the obtaining and sustaining of any and all such Letters Patent as the assignee may desire to apply for, but at the expense of said assignee.

The Commissioner of Patents or other proper official is hereby authorized and requested to issue said Letters Patent to said Washington University and Exegy Incorporated in accordance with this Assignment.

The undersigned hereby authorize and request the attorneys of record in said application(s) to insert in this Assignment the serial number, filing date, and date of execution of said application(s).

For said considerations, the undersigned hereby agree, upon the request and at the expense of said Assignees, to execute any divisional, continuation, continuation-in-part or substitute application for said invention or improvements, and any oath or affidavit relating thereto, and any application for the reissue or extension of any Letters Patent that may be granted upon said application(s), and, in the event of any application or Letters Patent assigned herein becoming involved in an interference, to cooperate to the best of the ability of the undersigned in the matters of preparing and executing the preliminary statement and giving and producing evidence in support thereof. The undersigned agree to perform, upon request, any affirmative acts to obtain said Letters Patent of the United States and vest in said Assignees all rights therein, whereby said Letters Patent will be held and enjoyed by said Assignees, to the full end of the term for which said Letters Patent may be granted as fully and entirely as the same would have been held and enjoyed by the undersigned if this assignment has not been made.

And for said consideration, the undersigned hereby assign to each of said Assignees one-half (50%) ownership of the entire right, title and interest in said invention or improvements for all foreign countries,

including all priority rights, and agree to execute, at the request of said Assignees, all documents in connection with any application for foreign Letters Patent therefor.

| IN WITNESS WHEREOF, I have Actaber, 2006. | hereunto set my hand the 26th day of Roger D. Chamberlain |
|--|---|
| STATE OF | : |
| COUNTY OF | SS |
| On this day of Chobe R County of Chobe S County of Chobe S County of Chobe S County of Chobe R County of | the nerson described in and who everythed the |
| IN TESTIMONY WHEREOF, I have hereu written. My Commission Expires: August 8, 2010 | Notary Public |
| WITNESS: | WITNESS: |
| By: Math Pullian | By: Carabamue & |
| Printed Name: Matthew Pullier | Printed Name: <u>Cara Camber</u> |



| IN WITNESS WHEDEOE I hove | haraunta ant my hand the 315th |
|---|--|
| () (| hereunto set my hand the $2!$ day of |
| December, 2006. | 15ML |
| | Benjamin M. Brink |
| STATE OF | : |
| COUNTY OF | : SS : |
| On this 21st day of December County of Fain of State BENJAMIN M. BRINK, to me known to be the assignment and acknowledged that he executed sa | 2006 before me, a Notary Public, within and for the of, personally appeared person described in and who executed the foregoing ame as his free act and deed. |
| IN TESTIMONY WHEREOF, I have hered written. | unto set my hand and seal the date and year last above |
| My Commission Expires: June 31, 2003 | Notary Public |
| WITNESS: | WITNESS: By:AleShan Mcml |
| Printed Name: BethAnn Telford | Printed Name: De Shawn McMillan |

| IN WITNESS WHEREOF, I have | hereunto set my hand the 24th day of |
|--|---|
| <u>October</u> , 2006. | Jason R. White |
| STATE OF | : : SS |
| COUNTY OF | : |
| On this And day of Ordock County of Saint Chordes, State JASON R. WHITE, to me known to be the person and acknowledged that he executed same as his free | 2006 before me, a Notary Public, within and for the of Missouri, personally appeared described in and who executed the foregoing assignment see act and deed. |
| IN TESTIMONY WHEREOF, I have hereu written. | into set my hand and seal the date and year last above |
| My Commission Expires: August 8, 2010 | Notary Public . |
| WITNESS: | WITNESS: |
| ву: | By: Mart Rollian |
| Printed Name: NAVEEN SINGLA | Printed Name: Matt Pullium |



| IN WITNESS WHEREOF, I have | hereunto set my hand the $3/$ day of |
|--|---|
| <u>oxtober</u> , 2006. | Mach a Franklin |
| STATE OF MISSOURI | : |
| COUNTY OF St. Lonis | : SS : |
| On this 3/S+ day of October County of St. Lows , State MARK A. FRANKLIN, to me known to be the assignment and acknowledged that he executed sa | 2006 before me, a Notary Public, within and for the of, personally appeared person described in and who executed the foregoing me as his free act and deed. |
| IN TESTIMONY WHEREOF, I have hereu written. | into set my hand and seal the date and year last above |
| My Commission Expires: 4-4-09 | Shew Buttray Notary Public |
| WITNESS; | WITNESS: |
| By: Cara Samuet | By: Lelanie Bach |
| Printed Name Cara Cambert | Printed Name: Melanie Bath |
| | |

SHERI BUTTREY
Notary Public - Notary Seal
State of Missouri - County of St. Charles
My Commission Expires Apr. 4, 2009
Commission #05690836

| IN WITNESS WHEREOF, I have hereunto set | my hand the 17 th day of Nevember |
|---|--|
| 2006. | Ron K. Cytron |
| STATE OF Missouri | Honge K. Cytron v |
| On this 17 th day of November County of 5+·Lonis, State RONALD K. CYTRON, to me known to be the assignment and acknowledged that he executed s | 2006 before me, a Notary Public, within and for the of Missege, personally appeared person described in and who executed the foregoing ame as his free act and deed. |
| IN TESTIMONY WHEREOF, I have here written. | eunto set my hand and seal the date and year last above |
| My Commission Expires: <u>Sept. 26, 2010</u> | |
| WITNESS: | WITNESS: |
| Ву: | Ву: |
| Printed Name: | Printed Name: |

LESLEY J TOMLIN
Notary Public-Notary Seal
State of Missouri, St Louis County
Commission # 06943482
My Commission Expires Sep 26, 2010